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RACES of the WORLD

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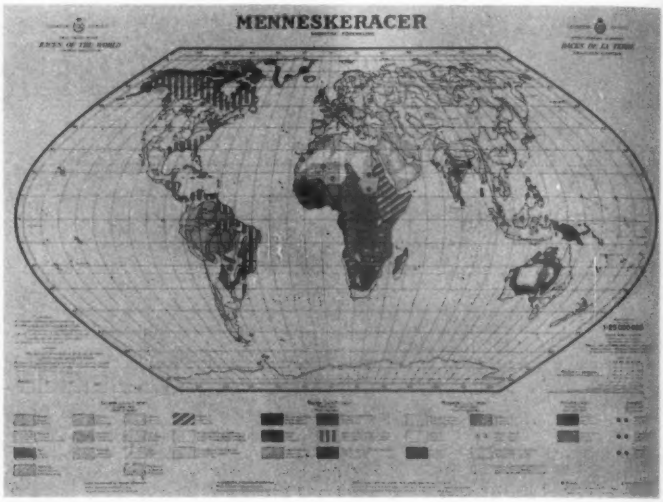

Text is in English, Danish, and French

Five racial groupings of man in his modern form are recognized, as well as are many subdivisions. The white group is divided into such races as Dinaric, Mediterranean, Armenoid, Nordic, Alpine, Orientalid, Lappish, Eastern European, etc. Published in 1955. Present day distribution of races is shown by means of 32 colored symbols.

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TRANSPORTATION, SOCIAL PHYSICS, AND THE LAW OF REFRACTION

William Warntz
American Geographical Society

For any science a great *desideratum* of its practitioners should be to reduce it to the smallest number of dominant principles. Surely it is in physics that this aim has been most successfully achieved. In classical physics all known formulas are capable of expression in a handful of basic dimensions. Each of the dimensions has been quantified through the selection of appropriate units. Every term which occurs in any equation can be expressed as the product of powers of one or more of the basic dimensions. Moreover, it can be demonstrated that similar patterns and relationships reveal themselves time and again amongst the various branches of physics; and problems in thermodynamics, for example, become isomorphic with those in electromagnetics or mechanics through vocabulary equivalences.

It can be fairly said that social scientists have only just begun the necessary search for the basic dimensions of society so essential if principles are to be developed which will permit the unification of the diverse branches of social science through vocabulary equivalences. A useful pioneering work is Stuart Dodd's *Dimensions of Society*, Macmillan Company, New York (1942).

However unobtainable this goal may seem to many scholars, it is, nevertheless, the avowed objective of a small but hard working force of investigators led by Professor John Q. Stewart of Princeton University. This Social Physics Group has made progress in two ways. One has been through the examination of demographic and economic statistics with the discovery of various mathematical regularities in human behavior; the other consists of testing the isomorphisms between physical and social science. It was soon revealed that a mechanical interpretation could be made for many of the regularities that had been discovered, and a branch of social physics isomorphic with physical mechanics was thus established and appropriately named social mechanics.[1]

In the publications cited in footnote 1, emphasis is upon population potentials, product supply potentials, demographic energy, time accessibility, and the like. In many cases all that has been necessary is to substitute such quantities as "number of people," "size of income," or "quantity produced" for mass in the equations of mechanics with time and distance retained as "social dimensions" in the explanation of various regularities amongst social and

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1. For selected publications representative of the findings in social mechanics see the following:

John Q. Stewart, "Empirical Mathematical Rules Concerning the Distribution and Equilibrium of Population," *Geog. Rev.*, Vol. 37 (1947), pp. 461–485

_____, "The Development of Social Physics," *Amer. Jour. Physics*, Vol. 18 (1959), pp. 239–253

William Warntz, "Measuring Spatial Association With Special Consideration of the Case of Market Orientation of Production," *Jour. Amer. Stat. Assoc.*, Vol. 51 (1956), pp. 597–604

_____, *Toward a Geography of Price-An Attempt to Develop a Theory of Geographical Variation of Price Using Concepts Measuring the Space and Time Dimensions of Certain Economic Phenomena*, University of Pennsylvania Press, Philadelphia. (This book is now in press.)

economic phenomena. This augurs well for the development of a truly macro-economic geography based on field quantity theory.

Success in social mechanics has continued. Emphasis has been broadened and deepened from that of dimensions alone to that of energy, with the attempt being made to identify kinds of "social energy," each related to its appropriate dimension. Here the early results have been so encouraging as to spur the group onward in their attempt to present each phase of social and physical science as mutually isomorphic examples of the same generalized logic. The harmonious phases of each are to be emphasized as indicative of the unity of knowledge.

As interesting and important as the now much widened scope of research in social physics promises to be in the future, it is social mechanics with its emphasis on space as well as time that at present offers most of interest and import to the professional geographer.

The following is offered as not only illustrative of the nature of research in social physics, but also indicative of the way in which social mechanics can contribute to thinking in geography.

Assume, as shown in figure 1, that a unit of cargo is to be sent from A via water and then land to B. The line CD represents a segment of a coastline on which some point is to be selected for the port of transshipment. The requirement is that the route from A to B occasion the minimum total transportation cost. It is further assumed, temporarily, that all sites along the coast are equally favorable for transshipment.

Figure 2 shows a curve which indicates the combinations of water and land miles in the trip between A and B via each of the points on the coastline. The specific points labelled on this curve represent those similarly labelled on the coastline in figure 1.

Selection of the optimum, i.e. the least cost, route can be made only when the freight rates, i.e. the per unit costs per mile, are known for both the water and the land. Indeed, it will be shown that the location of the optimum route depends upon the ratio of the land rate to the water rate.

But, even in the absence of precise knowledge of land and water freight rates, an examination of figures 1 and 2 suggests several things. In no case will the optimum route lie outside the quadrilateral AEBI of figure 1. Figure 2 clearly shows by the positive slopes of the segments of the curve beyond E and I that any route external to the quadrilateral involves *more* of *both* land and water miles than routes crossing the coast between E and I and is obviously wasteful. Between E and I on the coast, as shown by the negative slope of the segment E to I in figure 2, lies a transshipment point which will determine the optimum route and which can be selected by intelligent economizing between less expensive and more expensive miles once the freight rates are known.

Now, if the freight rates over water and land should happen to be equally costly, then the 640 mile straight line route AG'B (the shortest route) would be the least costly route that could be selected.

If the water rate were zero and the land rate some positive amount however small, the optimum route becomes AEB. Thus AEB is the limit which the least cost route approaches as the ratio of the land rate to the water rate becomes larger.

If the land freight rate were zero and the water rate some positive amount, the optimum route would be AIB. Thus, AIB is the limit which the optimum route approaches as the ratio of the land rate to the water rate becomes smaller.

Therefore, if the ratio of the land rate to the water rate be one, AG'B becomes, as indicated, the optimum route. If the ratio be greater than one, as is most likely, the transshipment point will be found between E and G'. But, if the

ratio be less than one, the transshipment point will lie somewhere on the segment of coast line G'I.

Figure 2 shows not only combined water and land miles but also various iso-cost lines. Line I of figure 2 shows the various combinations of land and water miles that could be purchased for an outlay of $40 if it cost 10 cents to move a unit of cargo one mile over water and 20 cents over land. The ratio of the land freight rate to the water freight rate is thereby 2 and the slope of the iso-cost curve is −2.

But, an outlay as small as $40 could not accomplish the trip because not enough land miles could be purchased to utilize *any* of the combinations of land and water miles that would make the trip physically possible, the minimum number of land miles being 300.

On the other hand, iso-cost curve II based on the same rate ratio shows an outlay of $103 which would make the trip possible for precisely that amount if either the point near E or the one near G' were chosen as the transshipment point. Clearly, neither of these resulting routes would be the optimum. The trip can be achieved with a smaller expenditure.

Iso-cost line III represents an outlay of $99 and this is the minimum expenditure that would permit the trip to be accomplished for at point F' iso-cost curve III and the trip curve are tangent. As measured either on figure 2 or on figure 3 or determined mathematically, the length of this optimum trip is found to be 661 miles of which 333 are over water and 328 over land. At point F' on figure 2 where iso-cost curve III is tangent to the trip curve, both curves have the same slope and therefore the instantaneous rate of substitution of water miles for land miles equals the ratio of the land freight rate to the water freight rate, a condition that must obtain if in the economics of substitution the minimum cost is to be achieved.

Figure 3 shows this optimum rate (solid line) from A to B crossing the coast at F'. This is the least cost route when the cost of traversing a land mile is just twice that of covering a water mile. It must be remembered that the optimum route is determined by the *ratio* of the land to water freight rates. Consequently, the simultaneous doubling, tripling, or halving of both rates would leave the route unchanged. But, if changes occured that were not proportional for each rate, then a new least cost route would emerge in response to the new ratio although still within the limits previously discussed.

The broken iso-cost line in figure 2 is based on a ratio of land rate to water rate of six to one and shows that the resulting route would cross the coast at E'. See the broken line on figure 3 as well.

Repeated graphical solution for the various possible ratios of freight rates is both awkward and unnecessary. It is expedient to state the situation more generally in mathematical terms. Therefore, in figure 4, let c represent the entire distance between E and I, and x the distance between E and the point of crossing the coast at J wherever that may be. Let W equal the water freight rate and L the land freight rate. The total transport cost T which is to be minimized is equal to $W\sqrt{a^2+(c-x)^2}+L\sqrt{b^2+x^2}$. Set up in this fashion, the only independent variable in the problem is x, the distance along the coast between E and the point which is to be selected as the transshipment site for the optimum route.

Total cost T is a function then of x alone and will be at a minimum when the first derivative of T with respect to x is zero, i.e. when the transshipment point is so located as to make $\frac{(c-x)W}{\sqrt{a^2+(c-x)^2}}$ equal to $\frac{xL}{\sqrt{b^2+x^2}}$. But, the term on the left is equal to $W\sin\alpha$ and the term on the right is equal to $L\sin\beta$, i.e.

Figure 1

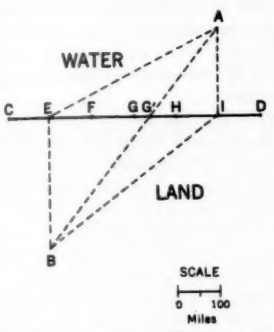


Figure 2

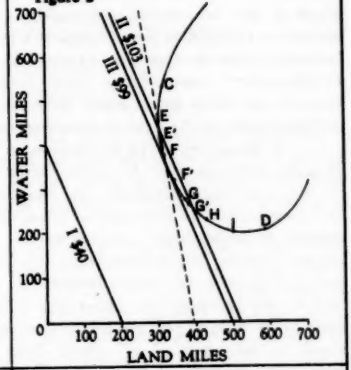


Figure 3

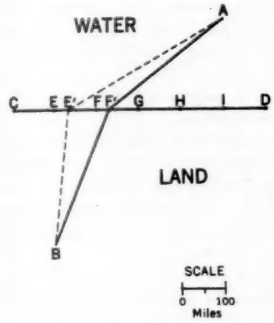
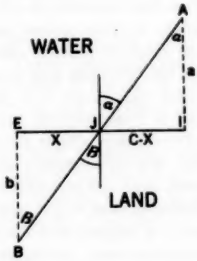


Figure 4



1. Selected Water–Land Routes from A to B

2. Transshipment Point Determination for the Least Cost Route by Means of the Trip Curve–Iso–Cost Curve Tangency Solution

3. Optimum Route: For a Freight Rate Ratio of 2 ————————
   For a Freight Rate Ratio of 6 — — — — —

4. Transportation Routes and the Law of Refraction

$\frac{\sin \alpha}{\sin \beta} = \frac{L}{W}$. The ratio of the sine of angle alpha to the sine of angle beta is the same as the ratio of the land freight rate to the water freight rate.

This is another bit of evidence lending support to the notions of social physics, for the above relationship is precisely the situation found in the refraction of light or sound when a wave front is incident on a plane boundary between media in which the velocity of light (sound) differs. The freight rates in the case of transportation routes through media which are unequally costly to traverse are taken as inversely isomorphic to the velocities of light or sound in different media in the case of refraction in physics.

Furthermore, it is well-known in optics that the path "chosen" by light in going from one point to another across the boundary between dissimilar media is *that one which minimizes the time involved.* The isomorph of "least time" is "least cost" in the case of transportation routes. The same sort of "economics of substitution" applies to the physical as to the social world. This *lex parsimoniae* which pervades nature and has its counterparts in the economic and social order has been discussed by August Lösch.[2] He suggests that the formula for refraction is universally valid when two unequally favorable zones have to be crossed with the smallest expenditure, whether of time, money, or even blood in the case of an officer leading troops across zones with differing severity of enemy fire.

O. M. Miller of the staff of the American Geographical Society has demonstrated that the isomorphism as expected also holds good for any circular arc as the boundary between unlike media so that the straight line boundary becomes merely the case of infinite radius. It must be cautioned, however, that irregularities of the coastline may cause many local minima. The problem is to select the *minimum minimorum* with the micro-geography of the coastline also to be considered if transshipment costs would not be everywhere the same and thus necessarily reckoned with in the ultimate route selection.

The law of refraction applies to route selection when the costs of route construction over unlike surfaces are to be considered in addition to the simple case of determination on the basis of terminal and line haul costs alone. This is not intended to suggest that freight rates can be considered apart from investment costs in construction. Rates, whether determined by legislation or by competition tend to reflect return on investment as well as the other operating costs. Nevertheless, the law of refraction can be used as a guide in the case of building a railroad say from one town to another when one of the towns is on firm ground and the other is on marshy land, with costs of laying a mile of tract distinctly different on the two types of land and with a fairly sharp boundary between the two types. Another problem occurs frequently in practice when a wedge of hilly country or otherwise difficult terrain lies between two points that are to be connected by transportation artery. Here the problem becomes one of two refracting surfaces.

To the extent that the fixed cost of overcoming an obstacle to route construction is high, the number of lines sharing a given route or part of it will tend to be large. Economies of scale and the limited divisibility of certain productive factors such as railroads and highways may require a compromise in the selection of a route.

Lösch suggests that refraction by lenses has its counterpart in economics and points out that the isthmus of Central America with its Panama Canal can be considered as a case in point of refraction by a biconcave lens.

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[2] See especially Lösch's *The Economics of Location* as translated into English from the original German by W. H. Woglom, New Haven: Yale University Press (1954) pp. 184–186.

The law of refraction is an important guide to the study and determination of transport routes. The success of the above isomorphisms suggests that reflection, focus, and other considerations in optics might be investigated with profit.

GEOGRAPHY IN THE AIR FORCE ROTC PROGRAM

Duane C. Tway and Herbert J. Vent
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Since the adoption of the Air Force ROTC generalized curriculum in 1953 approximately 60,000 college students per year who might not otherwise have done so have studied geography. In the two years prior to 1953 over 120,000 freshmen took a course in World Political Geography comparable to a three-hour course, utilizing a commercial textbook.

In January 1952 a decision was reached at Headquarters, United States Air Force, to replace the traditional military training program being taught in the Air Force with a generalized curriculum. The responsibility for developing this new curriculum was assigned to the Air University, Maxwell Air Force Base, Alabama. In the directive assigning this task Headquarters USAF set forth the new curriculum including one requiring that graduates of the AFROTC program should "be acquainted with areas of knowledge which are especially pertinent to officers on duty in the USAF." A list of eight knowledge areas included "world political geography and its relation to air power."

The planning group which developed the generalized curriculum consisted of leading civilian and Air Force educators. These educators drew up three objectives that also clearly indicated a need to teach a course in global geography. Such a course is now taught in the freshman year. This planning group determined that world political geography and its relation to air power should be given even greater emphasis than that assigned to global geography. As a consequence, a semester long course titled "Military Aspects of World Political Geography" was proposed and developed and is offered to senior cadets in addition to the freshman course titled "Fundamentals of Global Geography" which is approximately one semester hour of instruction.

An analysis has been made of the geography offerings in 1598 American colleges and universities,[1] and of Air Force ROTC offerings. Some interesting comparisons between the two in the academic year 1955–56 are presented.

1. In the Air Force ROTC program in 206 colleges and universities, 61,103 college students received some instruction in geography as compared to 181,931 students who received civilian geography instruction in all American colleges and universities.

2. In the 206 colleges where the Air Force contacts 61,103 students, there were 75,813 students taking geography courses taught by geography departments.

3. The Air Force ROTC in its freshman geography offering contacted 52,787 students while 82,564 took introductory geography courses taught by geography departments.

4. The Air Force ROTC taught 8,316 seniors in its political geography course while 5,756 students took political and historical geography taught by geography departments.

[1] J. R. Schwendeman, *Directory of College Geography in the United States*, 1955–56. passim. It should be noted that of the 1,598 schools in the survey 1,106 offered courses in geography.

5. In 48 schools offering Air Force ROTC geography no civilian-taught geography courses are offered.

Headquarters Air Force ROTC at Maxwell Air Force Base has encouraged Air Science instructors to work in close liaison with civilian geographers at the 158 schools where they have access to geography departments. The Association of American Geographers has assisted the Air Force ROTC officially through its AFROTC Committee which has given advice on the development of textbook materials and has reviewed them as they were developed. The success of the geography courses in the Air Force ROTC program has been assured in a large part by the continued assistance of professional geographers. In turn, many college students have had an opportunity to study geography in college, via the Air Force ROTC program, who otherwise might have taken no college geography courses. The knowledge and understandings acquired by these students have materially assisted in developing better junior officers for the USAF as well as better informed citizens, and by that token have added a pillar of strength to the American position in its international relationships.

WHAT CLIMATOLOGISTS NEED FROM OTHER GEOGRAPHERS

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Notes in various issues of *The Professional Geographer* (see references) draw attention to the relations between the study of climate and the study of visible phenomena in the landscape — landforms, streams, vegetation and land use, and refer to obligations that climatology is felt to have to other fields of geography. Pitts would have climatology supply most of the basic information on the physical landscape that might explain the facts of economic geography, to which Trewartha answers that no science is responsible for studying the effects of its subject matter on things in other disciplines. Jones earlier pointed out that making of classifications, useful as these may be for instruction, is only a small part of climatology. Trewartha shows that study of influences is not the core of the field either. In this note, the role of climatology *vis a vis* other parts of the field of geography is examined a little further. The thesis is that not all of climatology should be committed to providing support for other parts of geography; that indeed, inasmuch as it does contribute to them, it has a right to expect something in return.

Many fields deal with subjects that are affected by climate. To those already mentioned, civil and mechanical engineering and human physiology can be added. Men active in these fields are likely to run into booby traps if they rely on their own specialists and do not consult or employ a climatologist who can interpret the climatic and physical processes at the root of a specific problem. However, such consultation, interpretation and collaboration, although worthy activities, do not form the core of climatology. As Leighly says for the whole of physical geography, we can study the earth "in its own terms and for its own sake," and we can assert this for climatology as a part of physical geography.

Gilbert Highet remarks in "The Art of Teaching" that all of us spend our waking hours, apart from routine tasks, in two broad types of activity — teaching and learning. The climatologist may spend much of his time teaching, covering in this term the means of conveying information: consulting, publishing, providing information and interpretation, and in countless other ways showing the best methods of working with the climatic realities that affect problems of other disciplines. But he is also engaged in learning. He finds and creates new knowledge and data, new insights, and new pieces to fit into the framework of theory and

organization. These contribute to his own field. The sciences dependent on his knowledge cannot let him concentrate on teaching or applications to the neglect of the essence of climate. The objective of climatology is to understand the interaction between earth and atmosphere and sun, as Leighly, Thornthwaite and others have emphasized. Supplying information to other fields of geography and to other disciplines is interesting and stimulating to the climatologist, but it is not his reason for existence. He should not shirk his obligation to learn, that is, to work on the basic problems of the field.

Inasmuch as the climatologist has contributed to the success of other fields, he is entitled to receive the information from them that he needs to develop a full understanding of climatic processes. Climate is strongly affected by the surface on which it develops, and climatology depends on other parts of geography for knowledge of the earth's surface. This dependence is illustrated by problems in heat balance, which is an orderly means of adding up the components of heat income to a region and heat outgo from it. Heat balance has been shown to be basic in studying effects of climate on vegetation including crop plants, on hydrologic phenomena such as snowmelt and evaporation, on human activity, and on deterioration of equipment in severe environments. More than this, however, heat balance is itself a basic problem of the science. Some ways in which the items of heat income and outgo are affected by the earth's surface illustrate the type of knowledge that climatology needs.

The efficiency with which a regional landscape uses the solar radiation falling on it is determined by its reflectivity, or albedo. This terrain characteristic is, outside Russia, seldom measured, let alone mapped. Loss of heat from the region through longwave radiation depends on emissivity and temperature of the surface film of the terrain, neither widely studied as yet. (Surface temperature is related only indirectly to air temperature, an element which, incidentally, is losing some of the inordinate importance once attached to it.) The radiation economy of a region is also affected by shape and continuity of land surface, which affect receipt of shortwave and longwave radiation from above. Some factors of the radiation balance are known under laboratory conditions, and this knowledge needs to be extended to the geophysical scene.

The heat derived from radiation is divided between evaporating water and heating the local air, in a way that depends on such properties of the surface as soil conductivity and moisture, vegetation cover, and roughness, as Thornthwaite and others have shown. Storage of heat in soil and substrate from day to night or from summer to winter is also a characteristic of the landscape.

Properties of the surface that affect heat balance in the ways sketched above should be investigated. The soils geographer might well be concerned with heat storage and turnover, the vegetation geographer with albedo, roughness and water use, and the geomorphologist with significant radiation income and outgo. The regional geographer who would include in his compendium information on albedo, roughness, soil moisture and temperature regimes, and slope parameters would earn the gratitude of climatologists who are too much confined to material salvaged from forecasters' wastebaskets. Because geography includes the study of both terrain and climate, this cooperation can come about either through the interest of individuals in both landscape and climate, or through joint research of men from various parts of the field. Just as geographers study a region's import and export of plant tissue as food and feed, they may also study its import and export of energy in the forms of radiation or heat. By becoming aware of the thermal characteristics of the landscape other geographers can insure not only that climatologists provide more effective services and applications, but also, and more important, that they develop a fundamental understanding of climate itself.

A discipline such as climatology does not depend for its existence on the transient requirements or demands from other fields, or on the changing fashions of technology. It depends only on man's right to knowledge about the earth.

References

Stephen B. Jones, "What Does Geography Need from Climatology?" *Prof. Geog.*, Vol. 2, No. 4 (1950), pp. 41–44.

Arnold Court, "Geography Must Train Climatologists," *Prof. Geog.*, Vol. 2, No. 5 (1950), pp. 15–16.

H. Landsberg, "Climatologists Respond," *Prof. Geog.*, Vol. 2, No. 5 (1950), p. 17.

C. W. Thornthwaite, "Topoclimatology," *Proc. Toronto Meteor. Conf. 1953*, London, Royal Meteor. Soc., pp. 227–232.

John Leighly, "What Has Happened to Physical Geography?" *Annals*, Assoc. of Amer. Geog., Vol. 45 (1955), pp. 309–318.

F. R. Pitts, "What One Geographer Wants from Climatology," *Prof. Geog.*, Vol. 8, No. 5 (1956), pp. 8–10.

Glenn Trewartha, "A Reply to What One Geographer Wants from Climatology," *Prof. Geog.*, Vol. 9, No. 1 (1957), pp. 8–9.

SOME COMMENTS ON A RECENT TOUR OF THE USSR

W. A. Douglas Jackson
University of Washington

With the VIth World Festival of Youth and Students meeting in Moscow from July 28 to August 11, the USSR should witness the greatest influx of foreign visitors since the pre-World War II period. The efforts the Soviet government is making to attract tourists are, indeed, considerable. Yet, in view of the facilities available to handle a sizeable influx, they will undoubtedly be rather hard-pressed this year to provide the kind of attention and comfort that some of us enjoyed last year and would expect, considering the expense involved. A thirty-day tour of the USSR, including visits to the key western cities such as Leningrad, Moscow, Kiev, and Odessa, and to the Caucasus and Central Asia costs in the neighborhood of $1,000, de lux. This, of course, includes hotel, four meals per day, travel within the country, an Inturist guide and chauffeur, and admission to the museums, art galleries, and historic buildings. The wine and vodka, so necessary to make the Russian fare appetizing, and the ballet and opera, so capable of transporting one from the somewhat depressing appearance of everyday Russian life to a world of fantasy and color, all come extra. Souvenirs are expensive, too. However, with the rate of exchange now set within the country at ten rubles to the American dollar, the visitor will be somewhat better off than his predecessor last year who obtained only four to the dollar.

What is the value to the American geographer of such an excursion? Field work, as such, is ruled out partly because of the time factor (Soviet visas are usually granted for a period of one month only) and partly because one cannot roam freely. Official permission is required to go beyond the limits of the city scheduled on the tour. Nor can one attempt anything in the way of library research unless, foregoing an extensive tour, he decides to remain in Moscow. There he might find that the Lenin Library is available for use, though the delays in obtaining books might cause a great deal of frustration.

Nevertheless, within the limits imposed by 'circumstances,' one can gain much from such a visit. The impressions obtained do afford some general insight

into the activities and attitudes of the various peoples. The collective farms on display are invariably model farms; the peasant houses visited seem to be only recently decorated and furbished. Yet, if the efficient grain farm, for example, has over a hundred horses, and the model grape farm has vines more than a hundred years old, one wonders what must average or poor farms be like?

Everywhere, there is evidence, viewing the man in the street, the old babushkas in the churches and the youth in the universities, of a friendliness toward America, which has not been entirely eliminated by Soviet propaganda campaigns. The older folk remember our aid during the war and the youth are excited by our jazz and visions of our material wealth. While all may be reading Marx, Engels, Lenin and Stalin, one suspects that they find more interesting the translated works of the "great" American writers such as Dreiser and London! In the cities of the Soviet Union everyone seems to read because on the trolleys, at the hotel desks, in the parked taxis, on the park benches, faces are buried in books, and the queques in the book shops are usually long and patient, waiting the sale of a new edition of some little known American social writer.

A tourist is permitted to take photographs – within limits. Undeveloped film may be carried without difficulty from the country at the end of the trip. Indeed, the examination of luggage at border-crossing points is less than cursory. Certainly the informality of the customs and inspection people does much to eliminate the tension which sometimes accompanies international travel.

While it is still quite difficult, if not impossible, for the ordinary tourist to enter the USSR from the east, there are a number of approaches that can be made from the west and the south. At the first scheduled stop within the country, the traveler is met by an employee of Inturist and promptly established in a hotel. This procedure is followed dutifully from place to place, the period of sojourn from two to three days. At the end of each stay he is escorted (almost always rushed) to the airport or the station, where once settled aboard, he is "on his own" until arrival at the next scheduled stop. If the geographer dislikes travel, Soviet-style, he may simply reduce the number of stops and bide his time in one or two selected cities.

One major disadvantage to summer travel in the USSR is that many of the Soviet academic people are on vacation and frequently out of town. Moreover, all contacts must be made through Inturist (according to Inturist) and one can never be sure from day to day what the response will be. We were fortunate, partly because a number of our contacts had been established in advance of the trip, and it seemed that Soviet geographers were as anxious to see us as we were to see them. Our hope was that we might be able to interview them, but they were too many and we were the interviewed.

In addition to showing an interest in the actual development occurring in industry and agriculture in the United States, the Soviet geographers were especially interested in discussing the status of some branches of geography in this country: "Are American political geographers geopoliticians?" "What is happening in economic geography?" "Is regional geography dead?" These and similar questions provided a basis for discussion for several hours, but we did, in turn, manage to get some impressions concerning developments in the USSR.

ASSOCIATION AFFAIRS

SUMMARIES OF INFORMAL PANEL DISCUSSIONS*

Preparation of Geographers for Research in the Field. Norton S. Ginsberg, presiding. Panelists: John W. Alexander, Wesley C. Calef, Douglas D. Crary, Loyal Durand, jr., and Robert E. Huke.

The session focused mainly on the types of skills, techniques, and knowledge that are necessary for successful field work, rather than means of inculcating these upon the student. The aspect most generally and strongly emphasized was the importance of establishing proper relationships with the people of the area being studied because a large part of the geographer's information comes orally from people within his study area. Some panelists expressed it as establishing rapport, others gave examples of the necessity of proper introductions, while others emphasized learning the mores, customs, and habits of the local citizenry. The advantages and disadvantages of language competence came in for some consideration and discussion.

There was general agreement that observation, mapping, photography, and air photo interpretation were techniques indispensable in the field and particularly susceptible to instruction and practice in class groups. At least one participant, however, thought that skill in observation was perhaps the most difficult of all field skills to acquire.

Some degree of skill and sophistication in sampling techniques and the construction of questionnaire samples was urged. Finally, it was urged repeatedly that field workers acquire as much knowledge about the region as possible prior to going into the field, and that some sort of model conception of the organization of the region should be explicitly constructed prior to field work so that field observations may be systematically compared with the model.

(Summary by Wesley Calef)

Purpose of Cartography in Geographic Writing. Allen K. Philbrick, presiding. Panelists: George B. Cressey, George F. Jenks, Raymond E. Murphy, and Robert S. Platt.

The theme of the discussion was considered from three points of view. The role of the cartographic specialist was handled by George Jenks. Robert S. Platt and George B. Cressey represented the viewpoint of the geographic writer. Raymond Murphy upheld the editorial viewpoint.

Dr. Jenks opened the discussion by relating techniques of map making to the purposes of the map. Professor Platt talked of his experiences in using maps in the organization and development of research toward the solution of geographic problems. Dr. Cressey urged the profession to be more map-minded. To illustrate his point he told of a new book on Southwest Asia which he is currently writing. In this connection he is preparing the maps in draft form first and writing "to the maps." When one does this, he pointed out, new ideas emerge from the joint production of written and cartographic expression. Dr. Murphy spoke of the problems he has with authors who submit maps for publication which are difficult to reproduce.

The discussion from the floor indicated that there are two basic problems involved. One is the technical problem of developing the skill to make good maps for presentation purposes, maps that say what the author wants to express. The other is the fundamental problem of the role of the map as a conceptual tool of

*Other summaries appeared in the May issue.

geography. The aim of the professional geographer, it was felt, should be to improve the unity of technique and concept phases of cartography in geographic writing.

(Summary by Allen K. Philbrick)

Problems of the Undergraduate Geography Major in the Non-Professional Curriculum. Theodore Herman, presiding.

The discussion centered on the recognition of problems encountered in establishing and maintaining an undergraduate major curriculum in geography that does not necessarily lead to graduate work. Curriculum objectives and problems of their particular institutions were presented by G. P. Betz of the State Teachers College of California, Pennsylvania; Donald Brandon of Morgan State College, Baltimore; Wesley Calef of the University of Chicago; and Cy Sharer of Villanova University, Pennsylvania. Questions resulting from these explanations and comments from the floor were (1) What percentage of all courses taken by the undergraduate geography major should be geography courses? (2) What are the most sound methods by which geography can achieve acceptance as a separate field in the institution where it is taught? (3) How much of the undergraduate curriculum should be field work? (4) How much of the geography curriculum should be comprised of regional and how much of systematic courses? (5) How much of the curriculum should be comprised of service courses and how much of courses applying toward a major? (6) Is there danger of building a weak background for graduate work? (7) How much methodology should be offered to the undergraduate major? (8) Should geography be fitted into other social studies subjects and if so, how can this be accomplished? (9) What can be done about situations where teachers of geography do not have geography training?

(Condensed from a summary by Richard S. Thoman)

COMMITTEE MEMBERSHIP

EXECUTIVE COMMITTEE

Chauncy D. Harris, President; Clarence F. Jones, Past President; Lester E. Klimm, Vice President; Arch C. Gerlach, Secretary; Wallace W. Atwood, Jr., Treasurer; Edward A. Ackerman and Wilma B. Fairchild, Councilors.

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Nominating Committee

Samuel N. Dicken, chairman; Trevor Lloyd and J. Norman Carls.

APPOINTED COMMITTEES

**Cartography Committee*

Robert J. Voskuil, chairman; Fred W. Foster, Allen K. Philbrick, George F. Jenks, and Erwin Raisz.

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**Editorial Board for AAG Monograph Series*
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Geography of the Americas Committee
Edwin J. Foscue, chairman; Fred B. Kniffen, E. Willard Miller, and Clyde F. Kohn.

Geographers in Business Committee
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Geographers in Government Service Committee
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Chauncy D. Harris, chairman; William Applebaum, William L. Thomas, Jr., F. Kenneth Hare, Joseph E. Spencer, Edward B. Espenshade, Jr., and Stephen B. Jones.

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Punchcard Techniques Committee
Howard G. Roepke, chairman; William Warntz, Robert C. Klove, William L. Garrison, Reid A. Bryson.

*Standing Committee

Television Committee
Chairman to be appointed, Clyde F. Kohn, Harold M. Mayer, John A. Morrison, Howard H. Flierl, Lucile Carlson, and Alfred W. Booth.

**AAG Fellowships Committee*
Gilbert F. White (1958) chairman; Clyde F. Kohn (1959), and Herbert H. Gross (1960).

Program Committee (Los Angeles)
James J. Parsons, chairman; John R. Borchert, H. Bowman Hawkes, Karl J. Pelzer, Edward T. Price, Merle C. Prunty, Jr., Richard S. Thoman, H. Louis Kostanick.

DELEGATES

United States National Committee, I.G.U.:
Edwin J. Foscue (1958), Guido G. Weigend (1959), Clarence F. Jones (1960), Richard J. Russell (1960).

American Association for the Advancement of Science: Alfred H. Meyer.

National Research Council: Louis O. Quam (1959).

National Council of Geographic Education: Norman Carls.

American Council of Learned Societies: Walter W. Ristow.

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*Standing Committee

WALTER C. MENDENHALL died on June 2, 1957 at the age of 86 following a long illness. He was born in Marlboro, Ohio, graduated from Ohio Northern University, took advanced study at Harvard and Heidelberg, and had a long and distinguished career in the U.S. Geological Survey where he was appointed Director in 1931. He was the recipient of many awards and honors, including two honorary doctor of science degrees, and, among other high offices which he held in professional societies, he was President of the Geological Society of America in 1933.

DOROTHEA M. KELLEY died on March 7, 1957 at the age of 45. She was born and educated in Boston, Massachusetts, and received the M.Ed. degree from Boston Teachers College. At the time of her death she was a teacher of geography at the Roslindale High School, Roslindale, Massachusetts.

MERNA IRENE FLETCHER died in July 1956 following a prolonged illness. She had been a member of the geography staff of the University of Missouri for twelve years. At the time of her death she held the rank of Assistant Professor of Geography. She was a frequent contributor to scholarly and trade journals of articles on Latin America and the geography of soybean production.

REGIONAL DIVISIONS

NEW ENGLAND–ST. LAWRENCE VALLEY DIVISION

The New England–St. Lawrence Valley Geographical Society Division of AAG instituted local spring meetings for the first time this year. It was felt that the annual fall meeting was not serving either geography or geographers as well as it might, hence it was suggested by Division President S. Van Valkenburg that a meeting be held in the spring especially for the purpose of reaching geography teachers.

Meetings were held on May 1 at the Rhode Island College of Education, on May 4 at both the State Teachers College at Farmington, Maine and at the State Teachers College at Framingham, Massachusetts, and on May 11 at the State Teachers College, New Haven, Connecticut. The St. Lawrence Valley Division will hold its meeting in conjunction with the Canadian Association of Teachers at the University of Ottawa, June 5–8. Vermont will hold its meeting with the State Education Association in Barre in October. These meetings consist of presented papers, exhibits of geography textbooks and visual aid material suitable for the classroom, and local field trips.

EAST LAKES DIVISION

The spring meetings of the East Lakes Division of the AAG were held May 10 and 11 at Camp Muskingum, Leesville Lake, near Carrollton in northeastern Ohio. The host of these meetings was the Department of Geography and Geology, Kent State University, with James Rinier primarily responsible for the arrangements.

At the Friday evening program Bryce Browning, Director of the Muskingum Watershed Conservancy District, was featured speaker. His topic was the conservation program which has been conducted in the Muskingum Watershed. A field trip was taken the second day to observe strip coal mining operations and conservation practices in the stripped areas of northeastern Ohio. Emphasis was on aspects of land use, settlement, and conservation practices and on the operations of the Pittsburgh Consolidation Coal Company strip mines near Cadiz.

John Wesley Coulter, University of Cincinnati, resigned as Chairman of the Division and William R. Brueckheimer, Western Michigan University, was selected for this office for the remainder of the year. The Department of Geography, Western Michigan University, will serve as host of the fall meetings.

1960 MEETING

Dallas, Texas, will be the site of the 1960 AAG Annual Meeting.

ANNOUNCEMENTS AND REPORTS

AMERICAN COUNCIL OF LEARNED SOCIETIES GRANTS PROGRAM

The ACLS has announced that during 1958–59 it is making available three types of grants. The $100,000 Fellowship program will provide grants up to $7,000 for younger scholars to complete research projects in the humanities or to conduct intensive study in fields related to their specialties. Another $100,000 will be used for grants-in-aid up to $3,000 to support significant projects in humanistic research now in progress. The third is a Special Awards program for mature scholars to make possible the completion of distinguished works in the humanities. Additional information may be obtained from the American Council of Learned Societies, 2101 R Street, N.W., Washington 25, D.C.

AAAS INDIANAPOLIS MEETING
December 26–31, 1957

Section E, Geology and Geography, of the American Association for the Advancement of Science is planning to hold at the annual meeting a symposium on continental glaciation and its geographic importance as an environmental factor. In addition, there will be several sessions for individual contributed papers. Anyone interested in presenting a paper either for the symposium or the sessions should send a 250 word abstract, *in triplicate, by September 1* to Louis L. Ray, U. S. Geological Survey, Washington 25, D.C.

AAUW FELLOWSHIPS FOR WOMEN

The American Association of University Women has announced its 1958–59 program of national and international fellowships for women for the support of both doctoral and post-doctoral research. There is no restriction on the field or place of study. Stipends of from $2,000 to $4,000 will be made available. Deadline for applications is December 15, 1957. Additional information and application forms may be obtained from Miss Mary H. Smith, AAUW Fellowship Program, 1634 Eye Street, N.W., Washington 6, D.C.

FORD FOUNDATION FELLOWSHIPS

For the academic year 1958–59, the Ford Foundation is offering a limited number of fellowships for (a) post-doctoral training related to international and foreign affairs and (b) graduate training in the social sciences and humanities relating to Asia and the Near East, the Soviet Union and Eastern Europe, or Africa, south of the Sahara. Both the International Relations Training Fellowships and the Foreign Area Training Fellowships provide for study in the United States or abroad or both. Deadline for filing applications is November 1, 1957. Additional information and application forms may be obtained from the Secretary, The Ford Foundation, 477 Madison Avenue, New York 22, New York.

NEWS FROM GEOGRAPHIC CENTERS

UNIVERSITY OF NEBRASKA

Staff members are continuing their long-term research interests. Robert G. Bowman will return to northern New England for field research during the summer on glacial spillways and retreat of glacial ice. Esther S. Anderson is planning to compile results of a study made last summer on city planning in a number of southern cities. Leslie Hewes is continuing his study on risk in the Central Great Plains as exemplified in wheat failure. James E. Vance, aided by a research grant from the University of Wyoming, is working on early day transportation in Wyoming. Professors Anderson, Bowman, and Hewes have grants from the Research Council of the University of Nebraska, supplemented in the case of Leslie Hewes by the grant made in 1956 by the AAG. Welby R. Stevens of the U. S. Weather Bureau and Lecturer in Geography is working on drought in the Great Plains Region, and Frank E. Sorenson, Director of Summer Sessions and Lecturer in Geography continues his research in the field of education geography. Those participating in the 1957 summer school of the department are Leslie Hewes, Chairman, Harold H. McCarty of the University of Iowa, Robert P. Marple of Fort Hays Kansas State College, and James E. Vance.

UNIVERSITY OF CONNECTICUT

The University of Connecticut Marine Research Laboratory at Noank has been created as a center for the study of all aspects of the marine environment. Of interest to geographers is the program of climatological investigations to be inaugurated this summer by George R. Rumney. Emphasis will be placed on marine climatology, but special attention will for a time be given to comparative observations between the seashore site at Noank and an inland climatic station. Instruments are being installed this summer for the continuous recording of rainfall, wind velocity and direction, dry and wet bulb temperatures, and sunshine, and sea water temperature at three levels from the surface to the ocean floor. Other instruments for sounding temperature, moisture and winds will be installed later. The assembly of data from the initial installation will begin early next year.

Dr. Rumney has also been appointed Research Specialist in the Plant Science Department, as a climatologist to work with plant physiologists on studies of microclimate in relation to crop plants in Connecticut. Evapotranspiration plots have been in operation at one of the University farms for the past two years. Temperature, rainfall and open pan evaporation measurements have been taken during this period. Now, the Plant Science Department has asked Dr. Rumney to set up a complete climatic station to record various temperatures, humidity, net radiation, solar input and wind velocity and direction. This development offers many opportunities for climatological research.

UNIVERSITY OF CALIFORNIA, BERKELEY

The year 1957 marks the end of a long and important era as Carl O. Sauer retired in June after being at the University since 1923 and Chairman of the Department for 32 years. This year has been perhaps his busiest year, and has included planning for the new building which geography will share with geology and paleontology, to be ready in 1960. In addition to continuing on the

Guggenheim Selection Committee, Dr. Sauer has been Chairman of the Advisory Committee to the Geography Branch of the Office of Naval Research, and on the Advisory Board of the Conservation Foundation. As Honorary President of the AAG in 1956, his address "The Education of a Geographer" was published in the *Annals*, September 1956. He has also had published "Time and Place of the Ancient Americans" in *Landscape*, and "The End of the Ice Age and Its Witnesses" in the *Geographical Review*. Two special awards have been bestowed on him: *Ph.D. honoris causa* from the University of Heidelberg, and the Vega Medal given by the Swedish Society for Anthropology and Geography.

During 1956–57 John B. Leighly has been on sabbatical leave. Dr. Leighly was given an LL.D. from Central Michigan College where he was an undergraduate, and has been named Honorary President of the AAG. He will be Department Chairman again next year.

James Parsons attended the IGU meetings last summer in Brazil and took the Amazon Excursion. He has been appointed Program Chairman for the AAG meetings next year in Los Angeles. John Kesseli, working under the auspices of the Quartermaster Environmental and Research Division, is studying floods in the White Mountains area. Erhard Rostlund has been on sabbatical leave during the fall of 1956 to gather more information on a comprehensive work on birds of the west. He will teach the first summer session at the University of Idaho. Clarence Glacken is planning to be in Norway during 1957–58 on a Fulbright Research Fellowship. Arnold Court taught the climatology and meteorology courses while Dr. Leighly was away and is working for the U. S. Forest and Range Experiment Station.

During the summer session courses will be offered by William Talbot of the University of Capetown and Clarence Glacken. Raymond Murphy from Clark University will be visiting professor in the spring semester. New courses to be offered will be a general survey course for teachers, political geography and urban geography.

DENOYER–GEPPERT COMPANY

At the AAG Cincinnati meetings an Editorial Breakfast was held for the many geographers who assist in the work of the Denoyer–Geppert Company. Among those presented and greeted by Otto E. Geppert, Clarence B. Odell and Keith Olson were Clarence F. Jones, Charles C. Colby, Samuel Van Valkenburg, Shannon McCune, J. Lewis Robinson, Thomas Smith, John A. Morrison, Otis W. Freeman, Guy-Harold Smith, Benjamin E. Thomas and Norton Ginsburg.

UNIVERSITY OF CHICAGO

The 1957 Geography Alumni Reunion of the Department was a one day field excursion in recognition of Robert S. Platt's years of service and particularly his large contribution to geographic education through field study. Many Chicago-trained geographers look back on the northern Great Lakes field course as an outstanding educational experience. Mr. Platt, who retires on October 1, has been a member of the geography staff since 1919 and was Chairman of the Department from 1949 until, at his request, he was relieved of the administrative responsibility in 1955. His field work in Europe a year ago rounded out the series of studies he has made along the Dutch–German boundary in recent years. His report on these studies has been accepted to form one number of the research series published in Munster–Westfalen under the editorship of Wilhelm Muller-Wille and Elizabeth Bertelmeier. Mr. Platt leaves in early July for another field season in Europe.

Harold M. Mayer continues active work on urban geography and the St. Lawrence Seaway. His study of *The Port of Chicago and the St. Laurence Seaway* was published in May as Department of Geography Research Paper No. 49. The preparation and publication of the paper were aided by a grant to the University by Bacon, Whipple and Company.

Gilbert F. White has been appointed Chairman of a panel established by the United Nations to review the administrative, economic and social implications of integrated river basin development and to advise on proper action to ensure a world-wide exchange of experience and data on these matters. The panel includes engineers from France, Pakistan, the United Kingdom, and the Soviet Union, an economist from the Netherlands, and a finance minister from Colombia.

Baruck Boxer, who received the M.A. degree in March, has been awarded an Inter-University Fellowship for Field Training in Chinese for 1957–58. His course of training will begin August 1 at Tunghai University in Taichung, Taiwan, where he will remain at least 6 months. The fellowship, granted by the 12 universities in the United States that teach Chinese, is financed by the Ford Foundation and administered by Cornell University. Mr. Boxer has had three years of preparation in the Chinese language.

Robert N. Taaffe received an award from the Inter-University Committee on Travel Grants, enabling him to spend 30 days in the Soviet Union this summer. His itinerary includes visits to Leningrad, Moscow, Rostov, Kiev, and Kharkov, and he also expects to be in Stalingrad and several of the ancient commercial centers of Central America.

CAN YOU FIND THE HIDDEN COUNTRIES?

The names of ten countries are in the following paragraph. All the letters are in their right order and none of the names are abbreviated. Can you find them in less than five minutes?

> Can a daydreamer be blamed for pondering here, where the sea foams up the beach in a softly hushing line? On this beach, local historians agree, centuries ago traders in diamonds came from far-off lands. At these headlands, perhaps, painted and skin-hung Aryans gazed in the dawn of time; perhaps dinosaurs battled here in anger many eons before that; perhaps worshipers of fire landed here, and as the flames were lit a lyre would be softly strummed; perhaps here the wolf ran centuries ago and ancient man pondered, as even I am pondering.

(If you are stuck look on page 28)

PERSONAL NEWS

BENJAMIN E. THOMAS, University of California, Los Angeles, has been awarded a Ford Foundation fellowship for research on historical and economic geography in Kenya, British East Africa, from June 1957 to February 1958. The research project involves the mapping and analysis of changes in land use in the highlands of Kenya which are associated with improved transportation, European settlement, and the development of commercial products for export. This will be Professor Thomas' fourth period of field research in Africa since World War II.

COLBERT C. HELD has left the University of Nebraska to accept a position as Geographic Attaché for the State Department at Beirut, Lebanon.

JAMES E. VANCE, formerly of the University of Wyoming, is replacing Dr. Held at the University of Nebraska.

WILLIAM WARNTZ of the American Geographical Society has been appointed to the faculty of Princeton University as Research Associate, effective July 1, 1957. Dr. Warntz will continue on the staff of AGS to conduct research in macroeconomic geography and may be contacted there or at the Social Physics Group, Princeton University Observatory, 14 Prospect Avenue. He was formerly at the University of Pennsylvania.

C. WARREN THORNTHWAITE, Director of the Climatology Laboratory at Centerton, represented the United States on the Arid Zone Advisory Committee which met in Paris in April to discuss plans for the Arid Zone research project of UNESCO. The objective of the research is to devise effective methods for increasing the productivity of partly or totally arid areas. Studies include ways to utilize sun and wind as sources of energy, development of vegetation requiring little rainfall, methods of increasing rainfall, and utilization of saline and underground water resources.

ESTHER S. ANDERSON, University of Nebraska, was elected Second National Vice President of Sigma Delta Epsilon (Graduate Women's Scientific Research Organization) at a recent New York meeting. She is also National Chairman of the Fellowship Fund Raising Committee. The NCGE has appointed Dr. Anderson a member of the Journal of Geography Citation Award Committee. The award will be a citation for excellence for a contribution to the Journal in the three year period prior to the year the award is made. Fields in which articles are to be considered are: Human Geography and Conservation (1957), Political and Regional Geography (1958), and Physical Geography and Graphics (1959).

JOHN WESLEY COULTER has received a Fulbright award for France for the academic year 1957–58. He will lecture on the Pacific at the University of Bordeaux during the winter term and at the University of Paris in the spring term. His latest book, *The Pacific Dependencies of the United States*, is scheduled to be issued by The MacMillan Company in September.

DOUGLAS R. McMANIS and WLADYSLAW M. LOTKOWSKI are new additions to the staff of the Department of Geology and Geography at the University of Cincinnati.

BOGDAN ZABORSKI of McGill University has accepted the position of Head of the Department of Geography at the University of Ottawa. He will begin his new duties in September.

GORDON MERRILL is leaving McGill University in September to initiate geography courses at the University of Carleton in Ottawa.

NEW PUBLICATIONS

Fauna and Flora of Nepal Himalaya, Vol. I, 1955, 392 pp. $9.50; *Land and Crops of Nepal Himalaya*, Vol. II, 1956. Edited by H. Kihara. Fauna and Flora Research Society, Kyoto University, Kyoto, Japan. (For sale in the United States by Perkins.)

The first two volumes of a series, presenting the scientific results of the Japanese expeditions to the central part of Nepal during 1952 and 1953, are in the best Teutonic tradition of exhaustive detail. The contents of the first volume are of interest to zoologists and botanists. The contents of the second volume are mainly technical reports on the characteristics of cultivated plants which provide new data for plant geneticists and others concerned with the economic botany of Asia. The first two chapters in Volume II, written by Professor Jiro Kawakita, a geographer from Osaka City University, who was a member of the expedition, are an important contribution to geographic knowledge of climate, vegetation and crop zones in the inhabited portion of the Himalaya to the west and north of Katmandu. The treatment throughout is comparative and analytical, unlike the usual travelogue accounts of mountaineering adventures in Nepal, and geographers will look forward eagerly to the publication of the third volume which will contain the ethnographic findings of the expedition.

—John E. Brush

Cahiers de Géographie de Québec. New Series, no. 1, Oct. 1956. Published twice a year in Oct. and April by the Institut de Geographie, Université Laval, Quebec, Canada. In French with English summaries. illus. $3.00 (Canadian).

This new serial combines the *Cahiers de géographie* and the *Notes de géographie* which have been published by Laval since 1952. The first issue includes articles on cairns in the Canadian Arctic, geomorphology of the Quebec region, recent writings of Jean Gottmann, the origin of the Canadian "rang," observations of life on Southampton Island from the diary of an Eskimo, and the recent evolution of Orléans Island, plus news notes, signed book reviews, selections on geographical education and the activities of the Institut. There is also a page devoted to the Société de Géographie de Québec whose *Bulletin* (1880–1937) was a forerunner of the present title.

—Marie C. Goodman

Japanese Economics: A Guide to Japanese Reference and Research Materials. Charles F. Remer and Saburo Kawai. University of Michigan Center for Japanese Studies, Bibliographical Series No. 5. University of Michigan Press, Ann Arbor. 1956. 91 pp. $5.00.

This volume is a recent addition to the Bibliographical Series and is intended as a "guide to the growing number of Western students concerned with the economics and economy of Japan." It contains nearly 1,200 briefly annotated references to writings of Japanese economists, official reports, unofficial monographs, research papers, statistical periodicals, academic and business journals and other printed materials that come from the presses of Japan. Brief useful explanatory comments introduce each section of the bibliography. The title of each entry is given in Japanese with an English translation. The economic geographer interested in Japan will find this bibliography extremely useful.

—John H. Thompson

Japanese Geography: A Guide to Japanese Reference and Research Materials. Robert B. Hall and Toshio Noh. University of Michigan Center for Japanese Studies, Bibliographical Series No. 6. University of Michigan Press, Ann Arbor. 1956. 128 pp. $5.00.

The purpose of this bibliography is "to bring to the attention of Western geographers and other interested scholars those geographical writings of the Japanese which have appeared in the Twentieth Century and which are regarded by the compilers as significant contributions." It is an important contribution and the compilers should be commended.

Over 1,250 briefly annotated entries are grouped under the headings: Bibliographies; Encyclopedias, Dictionaries and Gazetteers, and Travel Guides; Yearbooks, Collections of Statistics, and Censuses; Sets and Collections; Periodicals; Atlases, Maps, Cartography, and Air-Photo Coverage; History of Japanese Geography; Physical Geography; Historical and Cultural Geography; Economic Geography; and Regional Descriptive Geography. Brief explanatory comments introduce each heading. Titles are in both Japanese and English. This bibliography will be invaluable to any student of Japanese geography who makes use of source materials in the Japanese language.

——John H. Thompson

Iran, Gazetteer No. 19, iv and 578 pp., 46,000 entries. $2.50.
Angola, Gazetteer No. 20, iii and 234 pp., 19,200 entries. $1.25.
Uruguay, Gazetteer No. 21, iii and 126 pp., 8,600 entries. $0.70.
China, Gazetteer No. 22, vol. I, A–L, vol. II, M–Z, vii and 979 pp., 37,600 entires, 6 p. correction list. $4.50.
Italy and Associated Areas, Gazetteer No. 23, vi and 369 pp., 28,900 entries. $1.75.
Hawaiian Islands, Gazetteer No. 24, iii and 89 pp., 7,250 entries. $0.65.
Nicaragua, Gazetteer No. 25, ii and 49 pp., 3,800 entires. $0.50.
El Salvador, Gazetteer No. 26, ii and 65 pp., 4,860 entries. $0.55.
Honduras, Gazetteer No. 27, ii and 235 pp., 19,000 entries. $1.25.
Haiti, Gazetteer No. 28, iii and 41 pp., 3,000 entires. $0.30.
Southwest Pacific, Gazetteer No. 29, v and 368 pp., 28,750 entries. $1.75.
Cuba, Gazetteer No. 30, iii and 113 pp., 9,000 entries. $0.70.

The above gazetteers are published by the Board on Geographic Names and are for sale by the Superintendent of Documents, Government Printing Office, Washington 25, D.C. Each volume consists of an explanatory foreword and an alphabetized list of official standard names approved by the Board on Geographic Names and cross-references from variant names and spellings. The forewords contain lists of designating symbols, extensive glossaries of generic terms occurring in the approved names, and lists of maps or other references which will assist in locating and identifying the features named.

——Allen Belden

Geografiia Tiazheloi Promyshlennosti SShA. (The Geography of Heavy Industry in the USA). V. M. Hochman. Geografgiz, Moscow. 1956. 530 pp.

This recent Soviet survey of the growth of the heavier branches of industry in the United States will be of interest to American geographers. The Leninist interpretation is apparent and the conclusions questionable, but a lot of effort has gone into this rather sizeable study. In addition to describing the location

and development of the iron and steel industry in the USA, the book also concerns itself with a number of other industries, such as the machine construction industry and the aviation industry. The second half of the book utilizes the regional approach.

——W. A. Douglas Jackson

Atlas of European History. Edward Whiting Fox, Editor. Oxford University Press. 1957. viii and 64 pp. $3.95.

Starting with a map of the Holy Land in the 10th century B.C., a series of carefully drawn color maps, many with shaded relief, show the spread and decline of empires, changing extent of administrative divisions, prominent trade centers, distribution of languages and religions, and the shifting European picture at significant periods of history up to 1955. These clear, easily read and uncluttered maps are designed primarily for use in American schools and colleges, but should prove to be a handy reference for anyone interested in the geography of Europe or in political forms and their changes. The Atlas also contains a 15-page gazetteer and 5 pages of map exercises.

Glossary of Pedologic (Soils) and Landform Terminology. Highway Research Board Special Report 25, National Academy of Sciences–National Research Council Publication 481, Washington 25, D.C. 1957. iii and 32 pp. $0.80.

This handy glossary was designed primarily to aid soil engineers and contains brief definitions of commonly used soil and landform terms, with emphasis on soil terminology.

Zeitschrift Fur Geomorphologie. Edited by Hans Mortensen. Three to four issues per year. Annual subscription DM 42.

After a lapse of 12 years this periodical devoted to research and information on geomorphology is again being issued. In addition to Prof. Dr. Hans Mortensen of Gottingen, the other editors are J. P. Bakker, Amsterdam; A. Cailleux, Paris; N. Nielson, Copenhagen; R. J. Russell, Baton Rouge; H. Spreitzer, Wien; and F. E. Zeuner, London. Subscriptions may be obtained from F. A. Brockhaus, Komm. Gesch. G.m.b.H., Stuttgart–N., Rapplenstrasse 20.

Oriental Geographer published by the East Pakistan Geographical Society, Dacca, Pakistan, vol. 1, no. 1, January 1957. Half-yearly. $2.00 single copy. Willing to exchange.

This is the first publication of the East Pakistan Geographical Society which has been "actively functioning since 1955 when it was inaugurated by Professor L. Dudley Stamp." Professor Nafis Ahmad, Chairman of the Department of Geography at Dacca University is the Editor. The feature articles which are illustrated with the maps indicate that emphasis will be on East Pakistan. Titles include:

Pleistocene Terraces of the Ganges Valley . . . . . A. I. H. Rizvi
Govindpur — A Study in Land Use . . . . . S. H. H. Naqavi
The Urban Pattern in East Pakistan . . . . . Nafis Ahmad
The Utilization of the Forest and Vegetational Resources of the Lower Indus Basin . . . . . A. H. Siddiqi
Changes in the Course of the Ganga between Banaras and Patna . . . . . R. L. Singh
The Distribution of Vegetation in the Tsangpo Gorge . . . . . Ulrich Schweinfurth

Geographical Record
Geographical Reviews

In keeping with the general aim of the Society to collect and disseminate geographical information on all countries, the reviews and "geographical record" cover all areas.

---Marie C. Goodman

Central Business District Bulletins. 1954. Census of Business, Bureau of the Census, U.S. Department of Commerce, Washington, D.C. 95 bulletins, each with 6 tables and 1 map, 10 cents each.

These bulletins, based on results of the 1954 Census of Business, provide information on changes in the business activity of the "Central Business District" (CBD) and the relationship of CBD activity to that in the city and in the standard metropolitan area. These data are being reported for 94 of the 110 cities with populations of 100,000 or more. A list of the CBD bulletins and an order blank may be obtained from the Bureau of the Census, Washington 25, D.C.

Each bulletin has an introduction which discusses: (a) the method by which the CBD was delineated, (b) the kinds of business covered, (c) the method of enumeration, (d) an explanation of terms and (e) notes on the comparability of the 1948 and 1954 Business Censuses. A map locates the CBD within its city and within its related standard metropolitan area. The first 3 tables present retail trade data for 1954 and 1948 by kinds of business for the CBD, the city, and the Standard Metropolitan Area. The remaining 3 tables show selected relationships of retail sales for 1954 and 1948 between the different areas by kinds of business.

Reporting of these business data by the Bureau is in response to the growing interest and need for information on the changing relationships of business activity in the city and its metropolitan area as the result of the increasing development of outlying or suburban shopping centers. The new CBD bulletins contribute to the rapidly accumulating reference materials on this subject.

---Alford Archer

The American Oasis — the Land and its Uses. Edward Higbee. Alfred A. Knopf, Inc. New York. 1957. xviii and 262 pp., illust. $5.00.

One of the main objectives of this book is to describe regional contrasts in American agriculture and to relate different systems of farming to major soil and water conservation problems. The book is written for the layman who is interested in the wise use and development of American's resources. Detailed descriptions of land use practices and systems used by the better farmers are cited. High praise is accorded the U.S. Soil Conservation Service and the U.S. Forest Service for their contribution to the restitution and conservation of the nation's soil, water, and forest resources.

The book is divided into two parts. Part one deals first with the institutional background of early America and its impact upon the use of land. The influence of climate and the contrasting characteristics of land resources on American agriculture is then discussed.

Part two contains a region-by-region commentary on modern agriculture. Starting in the West, the author takes the reader first to the deserts and irrigated valleys, then to the west coast. He then moves eastward to the dry plains and to the Corn Belt and finally, to the old and new frontiers of agriculture in the eastern United States. Graphic description and specific examples and illustrations which

reflect many firsthand observations make a distinct contribution to the literature of land and water use and conservation.

——James R. Anderson

America's Natural Resources. Edited for the Natural Resources Council of America by Charles H. Callison. Ronald Press Co. New York. 1957. v and 211 pp. $3.75.

With the need for the study of conservation becoming more important due to depleted resources combined with a rapidly increasing population, this book is most timely. The book is a synethesis of the basic facts about the conservation of soils, water, grasslands, forests, wildlife, fish, and parks. Each topic is treated as a separate chapter. Thirteen experts, including Shirley Allen, Ira Gabrielson, and Fairfield Osborn, objectively reveal dangerous prevailing practices and recommend ways of cooperating with nature of which man is a fundamental part.

Geographers should welcome this book as a valuable addition to several other fine recent books on conservation. The book will also be valuable for all other academic disciplines which deal with the study of basic earth materials. In fact, any citizen who wishes to see that future generations have a heritage unspoiled by waste and desolation will find this a useful book.

——Lee Guemsey

Southwest Pacific. Kenneth B. Cumberland. McGraw–Hill Co., Inc. New York and Whitcombe and Tombs Ltd., Christchurch, New Zealand. 1956. xviii and 365 pp. illust. $6.50.

This volume is an authoritative, geographic account of Australia, New Zealand, and the islands of the Pacific. Significant, up-to-date information is presented in a clear concise manner. The book is written in a simple objective way and can be used profitably in the senior high school as well as on the college level. The single column print is easily readable and much of the statistical material has been placed in the appendix.

The author first discusses, in a general way, such topics as: types of Pacific islands, peopling of the Pacific, exploration, communications, wind and storm tracts, soils, flora, fauna, and political and administrative districts. After dealing fully with Australia, the book presents a physical and human geographic treatment of "Australia's Island Neighbourhood." A discussion of New Zealand and its island neighbors follows. The history of the people, their immediate problems and future prospects are handled satisfactorily. The book is richly illustrated with maps and photographs which portray, for the most part, economic characteristics. The economic geography of the Pacific is emphasized throughout. An explanation of each photograph appears in the appendix along with a table of trade, population, and areal statistics. The study brings out vividly how commercial interests have developed local and international trade in the Pacific Realm. Native economies have been disrupted in many places, changing them from self-sufficiency to dependence on imports and exports. The author concludes with an accurate appraisal of the future of the Pacific World and its growing significance.

——Robert F. Perry

American Commodity Flow. Edward L. Ullman. University of Washington Press. Seattle, Washington. 1957. xxii and 215 pp., illust. (288 maps) $4.00.

In this text Dr. Ullman has once again "pushed-back" the frontiers of transportation geography. Not only have some of the phantom-like patterns of commodity flow been materialized on maps but techniques to derive additional, more specialized, data have been presented. The book is a rich mixture of applied and pure geographic research. Included are theoretical interpretations of spatial interchange and such "down-to-earth" business applicable data as (1) transportation gateways, (2) geonomic effects of freight rates, (3) geographic definitions of markets, (4) where selected areas obtain their goods, (5) locations of railroad offices and their yards, and, (6) bases for transportation and interaction.

The work is organized into five chapters: I. "Internal (American) Commodity flow"; II. "The Location of Railroad Offices and Yards"; III. "The Bases For Transportation and Interaction"; IV. "State To State Rail Movements" (contains 14 maps for each of 20 states showing origin and destination of selected freight categories as well as the total for all commodities); and V. "American Ocean Freight Traffic." Also, an excellent bibliography is provided.

The book should receive wide acceptance from the transportation industry, geography and economic students and teachers, industrial location researchers, community and regional promoters, and "top-level" managerial personnel. It is a real and much needed contribution.

---J. Edwin Becht

Climate and Economic Development in the Tropics. Douglas H. K. Lee. Council on Foreign Relations by Harper and Brothers. New York. 1957. xii and 182 pp. illust. $3.50.

In 1953 the Council of Foreign Relations created a study group to investigate the problems of the tropics. This group was composed of geographers, climatologists, experts in soils and livestock, doctors, public health specialists, architects, engineers, businessmen, physiologists, economists, and administrators. Douglas Lee's *Climate and Economic Development in the Tropics* is the outgrowth of deliberations by this group.

The winnowing of fact from fiction is handled ably by Dr. Lee. The nature of the tropical climate is explored first. Crop production, animal production, human health and efficiency, and industry each receives systematic treatment in separate chapters. The individual economic facets are analyzed (an analysis admittedly often hampered by the non-availability of definitive data) as to the direct effects of climate, means of circumventing these effects, complicating non-climatic factors, required action and preferential areas for action. The study concludes with an excellent 25-page analysis of the prospects for the development of the tropics.

Dr. Lee's study makes a great contribution in the collection of heretofore scattered materials. The value of the study is greatly enhanced by the sympathetic, although realistic, treatment of the problems of the tropics.

---Frederick L. Wernstedt

Extinct Languages. Johannes Friedrich. Philosophical Library, Inc. New York. 1957. x and 182 pp. illust. $5.00.

A clear and comprehensive view is given of the decipherments of the written languages of the ancient Orient--hieroglyphics of Egypt, the various languages of Mesopotamia and the civilization of Babylon written in cuneiform, and Hittite heiroglyphics. Brief summaries provide background on the peoples and their uses of the writing, its cultural and historical setting, contacts between

centers and the resultant spread of the languages and the intermixing of customs. In addition to the discussions of the trials, problems and final successes in the 19th and 20th centuries of the decipherments of these three significant writings, the author includes a survey of the translation, decipherment and study of extinct languages of the Old World, such as the Lycian language, the language of Side and the languages of ancient Italy. The book concludes with some examples of writings and scripts as yet undeciphered.

Galactic Nebulae and Interstellar Matter. Jean Dufay. Translated by A. J. Pomerans. Philosophical Library, Inc. New York. 1957. 352 pp. illust. $15.00.

Jean Dufay, Director of the Lyon and Haute–Provence Observatories, presents an authoritative and scholarly account of the phenomena, observational techniques and theoretical methods involved in the study interstellar matter. In this single volume the author has brought together and described in relatively simple terms the results of research in the last two decades on nebulae and diffuse matter in space. He presents the current state of knowledge in such fields as spectroscopy, radio-emission, study of the dark nebulae, absorbing clouds and light scattering. The physical conditions of interstellar space are described, as are the theories of star origin, age and behavior. Although the subject of this book may appear highly specialized, geographers should find in it a rewarding view of our universe.

Route-Mapping and Position-Locating in Unexplored Regions. W. Filchner, E. Przybyllok and T. Hagen. Academic Press Inc. New York. 1957. 288 pp. illust. $9.00.

This book contains very practical advice and suggestions on field mapping and sketching for use in uncharted or poorly mapped areas. Detailed explanations are given in Part One on reconnaissance mapping methods which are illustrated by numerous examples drawn from the wide experience of Dr. Wilhelm Filchner. He also includes descriptions of basic survey instruments and their uses, as well as the special problems and techniques for route-mapping in steppes, deserts and mountainous areas. Part Two by Dr. E. Przybyllok is devoted to an explanation of the methods and instruments for position-finding and altitude determination. Geographers will find of particular interest the succinct discussion of the properties and uses of aerial photographs by Dr. Toni Hagen in Part Three.

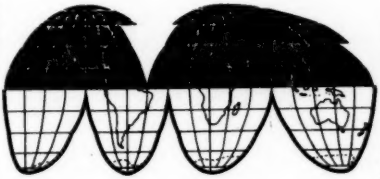
Studia Geophysica et Geodaetica. Czechoslovak Academy of Sciences. Prague. Issued biannually. Subscription price $4.20.

Published under the auspices of the Czechoslovak National Committee of Geodesy and Geophysics, this new journal plans to present scientific papers in such geophysical fields as meteorology, climatology, and physical hydrology, and in geodesy. The journal will also include news of Czechoslovakian scientific activities and reviews. Subscriptions should be addressed to ARTIA, Foreign Trade Corporation for the Import and Export of Cultural Commodities, 30 Ve smeckach, Prague 2, POB 790, Czechoslovakia.

Answers to puzzle on page 20:

Canada, China, Greece, India, Spain, Hungary, Germany, Ireland, Italy, France.

Goode's World Atlas



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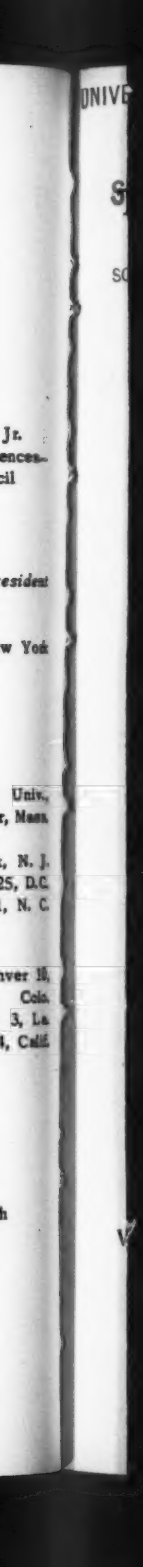
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